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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/722,412	11/28/2003	Naomi Hirano	245992US3	7406
22850	7590	02/09/2005	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.			HAN, JASON	
1940 DUKE STREET			ART UNIT	
ALEXANDRIA, VA 22314			PAPER NUMBER	
			2875	

DATE MAILED: 02/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/722,412	Applicant(s) HIRANO ET AL.	
	Examiner Jason M Han	Art Unit 2875	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 December 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) 10-15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☒ Claim(s) 1 and 3-9 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Claims 1-9 in the reply filed on December 27, 2004 is acknowledged. The traversal is on the ground(s) that the restriction requirement has not established that an undue burden would be placed upon the examiner. This is not found persuasive because Claims 1-9 recite a light source including a reflector, which is classified under 362/296 in the art of illumination, while Claims 10-15 recite a manufacturing method for the reflector, which is classified under 264/1.1. The examiner is not familiar with Class 264 and is considered non-related art, which requires a different examiner familiar with such related art. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their ***different classification***, restriction for examination purposes as indicated is proper, and considered an unnecessary burden upon the examiner.

The requirement is still deemed proper and is therefore made FINAL.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

3. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is

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requested in correcting any errors of which applicant may become aware in the specification.

4. Numerous grammatical errors are replete throughout the application. The examiner has forgone any correction due to the amount, and the specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is again requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

5. Claim 1 is objected to because of the following informalities: Applicant recites the limitation "the processed part". There is insufficient antecedent basis for this limitation in the claim. In addition, applicant cites the reflector made of glass that comprises an amorphous glass, which is illogical and ambiguous considering the device is a glass reflector of definite shape, as further defined in Claims 5, 7, and 9 (elliptical/parabolic surface). Appropriate correction is required.

6. Claims 3-4 are objected to because of the following informalities: Applicant recites the limitation "said smoothed surface". There is insufficient antecedent basis for this limitation in the claim. Appropriate correction is required.

7. Claims 5, 7, and 9 are objected to because of the following informalities: It is unclear how the surface accuracy of the opening can be less than +/- 20 μ m. Appropriate correction is required, whereby the negative value should be removed.

8. Claim 8 is objected to because of the following informalities: Applicant cites the reflector made of glass that comprises an amorphous glass, which is illogical and

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ambiguous considering the device is a glass reflector of definite shape, as further defined in Claims 5, 7, and 9 (elliptical/parabolic surface). Appropriate correction is required.

It should be noted that the method of forming a device is not germane to the issue of the device itself. Therefore, the limitations with respect to process of making have not been given patentable weight. The examiner has rejected the claims in light of the specification, but rendered the broadest interpretation deemed by the structural limitations [MPEP 2111].

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miwa et al. (U.S. Patent 6814453).

10. With regards to Claim 1, Miwa discloses a reflector [Figure 1: (10)] for a projector [Column 1, Lines 6-10] that is made out of glass with a thermal expansion coefficient in the range of $30 \text{ to } 48 \times 10^{-7}/^{\circ}\text{C}$ [Column 4, Line 56], and further including a reflective surface [Figure 1: (12)] providing an opening [Figure 1: (11b)] for a light source [Figure 1: (14)].

In addition, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have formed the glass with a thermal expansion coefficient between the range of 30 to $45 \times 10^{-7}/^{\circ}\text{C}$, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215. In this case, it is obvious that the abovementioned range is optimum for preventing the glass member from breaking, as corroborated by Miwa [Column 4, Lines 42-56].

11. With regard to Claims 2 and 6, Miwa discloses the opening being smooth [Figure 1: (12); Column 8, Lines 1-11]. It is again noted that the method of forming a device is not germane to the issue of the device itself. Therefore, the limitations with respect to process of making have not been given patentable weight.

12. With regards to Claim 3, Miwa discloses the surface roughness being 0.03 μm or less [Column 8, Lines 1-11].

In addition, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have formed the surface roughness between 0.03 μm or less, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215. In this case, it is obvious that the abovementioned range is optimum for preventing the irregular reflection of light, as corroborated by Miwa [Column 8, Lines 1-11].

13. With regards to Claim 4, Miwa discloses the opening being smooth [Figure 1: (11c)], and further discloses the surface roughness being 0.03 μm or less [Column 8, Lines 1-11].

In addition, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have formed the surface roughness between 0.03 μm or less, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215. In this case, it is obvious that the abovementioned range is optimum for preventing the irregular reflection of light, as corroborated by Miwa [Column 8, Lines 1-11].

14. With regard to Claims 5 and 7, Miwa discloses the reflective surface [Figure 1: (12)] being in the shape of either a paraboloid of revolution or an ellipsoid of revolution [Column 1, Lines 11-14], and further discloses the surface accuracy in the neighborhood of the opening being less than 20 μm [Column 8, Lines 1-11].

In addition, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have formed the surface accuracy proximate the opening to be less than 20 μm , since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215. In this case, it is obvious that the abovementioned range is optimum for preventing the irregular reflection of light, as corroborated by Miwa [Column 8, Lines 1-11].

15. Claims 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miwa et al. (U.S. Patent 6814453).

16. With regards to Claim 8, Miwa discloses a reflector [Figure 1: (10)] for a projector [Column 1, Lines 6-10] that is made out of glass with a thermal expansion coefficient in the range of 30 to 48 $\times 10^{-7}/^{\circ}\text{C}$ [Column 4, Line 56], and further including a reflective

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surface [Figure 1: (12)], with surface roughness of 0.03 μm or less [Column 8, Lines 1-11], providing an opening [Figure 1: (11b)] for a light source [Figure 1: (14)].

In addition, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have formed the glass with a thermal expansion coefficient between the range of 30 to $40 \times 10^{-7}/^{\circ}\text{C}$, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215. In this case, it is obvious that the abovementioned range is optimum for preventing the glass member from breaking, as corroborated by Miwa [Column 4, Lines 42-56].

17. With regards to Claim 9, Miwa discloses the reflective surface [Figure 1: (12)] being in the shape of either a paraboloid of revolution or an ellipsoid of revolution [Column 1, Lines 11-14], and further discloses the surface accuracy in the neighborhood of the opening being less than 20 μm [Column 8, Lines 1-11].

In addition, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have formed the surface accuracy proximate the opening to be less than 20 μm , since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215. In this case, it is obvious that the abovementioned range is optimum for preventing the irregular reflection of light, as corroborated by Miwa [Column 8, Lines 1-11].

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following references are cited to further show the state of the art pertinent to the current application, but are not considered exhaustive:

US Patent 3541825 Reader et al;

US Patent 3825742 to Levin;

US Patent 4499526 to Tarnay;

US Patent 5438448 to Nishimura et al;

US Patent 5858046 to Allen et al;

US Patent 6306010 to West et al;

US Patent 6492031 to Moriyama et al.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason M Han whose telephone number is (571) 272-2207. The examiner can normally be reached on 8:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on (571) 272-2378. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JMH (1/26/2005)



JOHN ANTHONY WARD
PRIMARY EXAMINER